3589-87-I-DOE-177

Department of Energy
Oak Ridge Operations
Weldon Spring Site
Remedial Action Project Office
Route 2, Highway 94 South
St. Charles, Missouri 63303

October 16, 1987

Ms. Katherine Biggs
United States Environmental
Protection Agency
Region VII
726 Minnesota Avenue
Kansas City, Kansas 66101

Dear Ms. Biggs:

INTERIM RESPONSE ACTIONS (IRA'S)

Enclosed are six (6) copies of the documentation for the following four (4) Interim Response Actions:

1. Dismantling of Building 401
2. Dismantling of Building 409
3. Removal of PCB Transformers
4. Debris Consolidation

In addition, we are sending under separate cover, six (6) copies of the technical specifications and drawings from each of the four (4) proposed bid packages.

It is our intention to have copies of these documents in place in the repositories for public inspection, and to provide public notice of their availability on October 19, 1987. This will initiate the twenty one (21) day comment period.

If you have any questions, please give me a call.

Sincerely,

J H McCracken

Rod Nelson
Project Manager
Weldon Spring Site
Remedial Action Project

Enclosures:
As stated

cc w/enclosures:
D. Bedan, MDNR

DOCUMENT NUMBER: _____

The public comment period on this interim remedial action ends on November 9, 1987. Comments may be sent to any of the following:

1. Ms. Katherine Biggs
   U. S. Environmental Protection Agency
   Region VII
   726 Minnesota Avenue
   Kansas City, Kansas 66101

2. Mr. David Bedan
   Missouri Department of Natural Resources
   Post Office Box 176
   Jefferson City, Missouri 65102

3. Mr. Rodney R. Nelson
   Weldon Spring Site Remedial Action Project
   Route 2, Highway 94 South
   St. Charles, Missouri 63303

DOE PLAN FOR

DEBRIS CONSOLIDATION

Site Background

The Weldon Spring site is located in St. Charles County, Missouri, about 48 km (30 mi) west of St. Louis. From 1941 to 1944, the U.S. Department of the Army operated the Weldon Spring Ordnance Works at the site for production of trinitrotoluene and dinitrotoluene. In the mid 1950s, a portion of the property was transferred to the U.S. Atomic Energy Commission (AEC), a predecessor of the U.S. Department of Energy (DOE).

From 1957 to 1966, the AEC operated a uranium processing facility at the Weldon Spring site. Impure uranium ore concentrates and some scrap uranium metal were processed at the chemical plant, and thorium-containing materials were also processed on an intermittent basis. Following closure by the AEC, the Army reacquired the chemical plant in 1967 and began converting the facilities to produce herbicides. The buildings were partially decontaminated and some equipment was dismantled. In 1969, prior to becoming operational, the herbicide project was canceled. Since that time, the plant has remained essentially unused and in caretaker status. The Army returned a portion of the Ordnance Works property to the AEC in 1971 but retained control of the chemical plant buildings. In 1984, the Army repaired several of these buildings; decontaminated some of the floors, walls, and ceilings; and removed some contaminated equipment to areas outside of the buildings. In 1985, custody of the chemical plant property was transferred to DOE.

Miscellaneous debris is randomly scattered throughout the 88-ha (220-acre) Weldon Spring site. If consolidated, the debris would cover an area of about 0.4 ha (1 acre). This debris consists of numerous articles ranging from small pieces of trash to abandoned vehicles.

Site Characterization

Site debris consists primarily of wooden and metal materials and includes such items as wooden pallets, railroad ties and hardware, assorted steel piping, lockers, tables, empty metal containers and cabinets, wheelbarrows, drinking fountains, water pumps, forklifts, and assorted trucks and trailers. Much of this material may be radioactively contaminated because a considerable amount of the debris was formerly associated with processing operations at the chemical plant.

Threat to Public Health and the Environment

A detailed characterization of site debris has not yet been performed. It is likely that the debris poses a potential radiological health threat, and uncontrolled releases of potentially hazardous materials from the debris could be occurring. In addition, these materials represent a potential safety hazard to workers on the site.

Response Objectives

The objectives of this response action are as follows:

1. Perform a detailed chemical and radiological characterization of the debris to determine appropriate handling and storage procedures in order to minimize exposure hazards and the likelihood of contaminant releases to the environment;

2. Isolate the debris from the work environment to ensure the safety of on-site personnel; and

3. Store the debris in a manner that minimizes the potential for exposure threats and the release of contaminants to the environment.

Proposed Response Action Alternatives

Interim response actions are designed to ensure the health and safety of on-site personnel and to minimize or preclude off-site releases of contaminants. These actions are limited to those that can be performed under the Comprehensive Environmental Response, Compensation, and Liability Act/Superfund Amendments and Reauthorization Act and remain within the constraints of the Council on Environmental Quality's regulations for the National Environmental Policy Act (i.e., actions will be limited to those that do not have an adverse environmental impact nor limit the choice of reasonable alternatives).

The management of scattered debris at the Weldon Spring site is a two-phased process. The first phase consists of debris characterization and consolidation. The second phase consists of off-site transport to a licensed disposal facility of all material not exceeding chemical and radiological limits for unrestricted release. This proposed interim response action addresses the initial phase of the debris management process.

Alternative response actions identified for debris consolidation are:

1. No action;

2. Consolidation and storage of the debris at several locations throughout the site; and

3. Consolidation and storage of the debris at a single site location.

Analysis of Alternatives

Alternative 1 affords no reduction in the potential safety threat posed by the debris scattered throughout the site. There would be no improvement in environmental conditions at the site if no action were taken. This alternative presents no technical

barriers and costs nothing in the short term. However, the debris is scheduled for eventual disposal and its random placement negatively affects groundskeeping and other ongoing activities, as well as associated costs.

Alternatives 2 and 3 are technically feasible, and both will reduce the potential hazards associated with the debris. However, due to the multiple storage locations, Alternative 2 is less desirable based on both environmental and cost considerations. Alternative 3 is more consistent with DOE's intention to facilitate cleanup of the site. Therefore, following the screening and analysis process for interim response action alternatives, Alternative 3 has been identified as the preferred alternative.

Description of Proposed Action

The proposed interim response action involves the following operations.

1. Detailed chemical and radiological characterization of all debris;

2. Separation of radioactive debris from nonradioactive debris, with subsequent transport of the radioactive debris to a designated material staging area located at the Weldon Spring site, pending a decision on final disposal; and

3. Transport of nonradioactive debris to the designated on-site staging area for interim storage and scrap recovery prior to off-site disposal.

Debris consolidation will be performed in compliance with all applicable regulations and procedures. All debris will be radiologically surveyed. Any material exhibiting surface contamination levels in excess of 1,000 disintegrations per minute (dpm)/100 cm^2 removable or 5,000 dpm/100 cm^2 total (fixed plus removable) alpha contamination (U.S. Department of Energy 1987) will be segregated and stored at the designated consolidation area.

Characterization and consolidation of this material would reduce maintenance costs and exposure hazards, as well as the potential for releases of contaminants to the environment, thereby improving environmental conditions at the site.

The total volume of debris scattered throughout the site is estimated to be 9,000 m^3 (12,000 yd^3). Some of this material may be radioactively contaminated in excess of the above criteria or chemically contaminated in excess of applicable levels for disposal in a sanitary landfill. The radiological and chemical characterization of site debris is part of the proposed action. Therefore, volumes of radioactive and hazardous waste cannot be estimated until this work is completed.

References

U.S. Department of Energy, 1987, *U.S. Department of Energy Guidelines for Residual Radioactivity at Formerly Utilized Sites Remedial Action Program and Remote Surplus Facilities Management Program Sites* (Revision 2, March).

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U. S. DEPARTMENT OF ENERGY

OAK RIDGE, TENNESSEE

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OMMENDED

CHEMICAL PLANT CONSTRUCTION DRAWINGS

PLAN DEBRIS REMOVAL

IOVED DATE	CHIEF ENG /QA MGR DATE	PMC ENG'G MGR DATE	DOE PROJ ENG DATE

MORRISON-KNUDSEN ENGINEERS, INC.
A MORRISON KNUDSEN COMPANY
WSSRA PROJECT
180 HOWARD ST SAN FRANCISCO CA 94105

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